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June 20, 1996

EX PARTE

William F. Caton, Acting Secretary
Federal Communications Commission
919 M Street, N.W.- Rm. 222
Washington, D.C. 20554

Re: CS Docket No. 96-45

Dear Mr. Caton:

On June 5, 1996 Lee Selwyn of Economics and Technology, Inc participated in the meeting of the Federal-State Joint Board on Universal Service on behalf of The National Cable Television Association.

Please find attatched a copy of the follow-up letter from Mr. Selwyn to the Commissioners on the Joint Board.

If you have any questions concerning this matter, please contact the undersigned.

Sincerely,

Richard Cimerman

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June 19, 1996

Hon. Reed E. Hundt, Chairman
Federal Communications Commission
1919 M Street, NW, Room 814
Washington, DC 20554

Hon. Rachelle B. Chong, Commissioner
Federal Communications Commission
1919 M Street, NW, Room 844
Washington, DC 20554

Martha S. Hogerty, Public Counsel
Secretary of NASUCA
Missouri Office of Public Counsel
P.O. Box 7800
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Hon. Julie Johnson, Commissioner
Florida Public Service Commission
2540 Shumard Oak Boulevard
Gerald Gunter Building
Tallahassee, FL 32399

Hon. Kenneth McClure
Missouri Public Service Commission
301 West High, P.O. Box 350
Jefferson City, MO 65101

Hon. Sharon L. Nelson, Chairman
Washington Utilities &
Transportation Commission
P.O. Box 43250
Olympia, Washington 98504-7250

Hon. Susan Ness, Commissioner
Federal Communications Commission
1919 M Street, NW, Room 832
Washington, DC 20554

Hon. Laska Schoenfelder, Commissioner
South Dakota Public Utilities Commission
State Capitol, 510 East Capitol Street
Pierre, SD 57501

Re: CC Docket No. 96-45

Dear Members of the Joint Board:

Thank you for the opportunity to participate at the June 5 meeting of the Federal-State Joint Board on Universal Service and to speak with you about high cost funding issues. My purpose in writing this letter is to supplement my remarks and to clarify one of the issues that was explored at some length during that meeting, the appropriate geographic unit for assessing the potential universal service funding requirement.

CBGs vs. wire centers as the basis for USF support

As you may recall, ETI believes that the potential extent of high-cost support should be determined at the *wire center* level, whereas most of the incumbent local exchange carriers (ILECs) argue that support requirements should be measured at a far more granular level, the Census Block Group (CBG). In my discussion with you on June 5, I offered several specific reasons why the wire center, and not the CBG, should be adopted as the costing unit:

- The *wire center*, rather than the CBG, reflects the current architecture of the public switched network. Wire center locations and their associated feeder and distribution networks have been optimized to cover most efficiently the entire area that each serves. Under the so-called "scorched node" philosophy of the Benchmark Cost Model (BCM) and other cost proxy efforts (including Pacific Bell's "Cost Proxy Model" (CPM)), the prevailing network architecture is maintained, even if a more efficient design would be adopted were the network to be constructed from scratch (a so-called "green field" or "scorched earth" approach) using state-of-the-art switching and transmission technologies. Under a "scorched earth" approach, wire center locations are not retained, and new (and probably far fewer) locations would be determined based upon optimal designs using currently available technology. Hence, it would be inconsistent to rely upon a "scorched node" model such as the BCM while requiring that costs be measured at a level that exaggerates the very inefficiencies that are necessarily retained under the "scorched node" approach.

- The Census Block Group is a construct of the U. S. Census Bureau and has nothing whatever to do with the manner in which a telecommunications network would be designed, either in the past or in the future. Consequently, there is no basis whatsoever to expect that, on a forward-looking basis, any (i.e., scorched node or scorched earth) network would be constructed around the geographic properties of a CBG.

- The public switched network is, however, structured around the *wire center* as the basic network unit. Within the area served by a wire center, there are extensive scale and scope economies arising from the ability of subscribers in all parts of the wire center serving area to share certain resources in common. Assessment of costs at a level below the wire center (e.g., at the CBG) necessarily requires an arbitrary assignment of such shared switching and distribution network costs as among the various CBGs and, in particular, as between those located close to the wire center itself vs. those located more remotely.

Because networks are not structured around the geography delimited by CBGs and because there exists an extensive level of resource sharing among the individual CBGs within a single wire center serving area, there is simply no economically valid basis to accurately measure or assign costs at the CBG level, and for this reason the CBG approach must be rejected.

Basing cost proxies and cost support determinations at the wire center level does not preclude one from utilizing *data* that is disaggregated at the CBG level in calculating wire center-level proxy costs, which is what the BCM does. Wire center costs can be determined by simply aggregating the per-CBG costs that are derived by the BCM for all of the CBGs within each wire center. ETI has demonstrated that the Benchmark Cost Model can be readily used to develop wire center level cost proxy estimates. Hence, the question for the Joint Board is not constrained by the available proxy modelling tools, it is simply one of determining which approach better achieves an economically efficient and competitively fair result.

US West's claims of a USF support "bonanza"

During the June 5 panel discussion, Mr. Brown of US West sought to portray wire center aggregation as providing a "bonanza" for low-cost CBGs and the local telecommunications providers that serve these areas. He did so by describing the La Junta, Colorado wire center, claiming that, for La Junta, assessing the need for high cost support at the wire center level would result in "unnecessary" funding to low cost CBGs. In making this assertion, Mr. Brown implies that a CBG-based assessment of the high cost support requirement is somehow more "accurate" than a wire center-based assessment because it would examine the universal service funding requirement on a more granular level. Carrying this line of reasoning to its logical extension — i.e., that more granular is more "accurate" — would lead to the conclusion that the requirement for high cost support for residential local exchange service should be computed separately for each and every household. This would be as inappropriate as would be the opposite end of the spectrum, that is, comparing the cost of residential local exchange service that is averaged over the entire country with the desired price threshold for support.[1]

In discussing Mr. Brown's La Junta example, I noted that it was entirely idiosyncratic in that precisely the opposite conclusion would be drawn if even a small change in the hypothetical data were made. Mr. Brown offered no evidence that his example was in any sense representative or typical, and there is no reason to believe it is. In fact, ETI has performed this analysis not for one isolated exchange, but for an entire state — Washington. In that analysis, we found that calculating proxy costs at the wire center level results in a lower support requirement overall, at each of the three price support thresholds. Table 1 below presents the results of extrapolating our Washington State analysis to the national level — the more economically appropriate wire center based approach produces a nationwide high cost funding requirement that is $500-million lower at the $20 support level than when CBG-based proxy costs are used.

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1. The national average cost is less than $13.00 (based upon the BCM using ETI's partial corrections), i.e., a level far below any of the three price thresholds reflected in the BCM.

Clearly, the "bonanza" suggested by Mr. Brown arises not when costs are assessed at the wire center level, but when this is done at the CBG level, and flows not to the "new" telecommunications providers (who the ILECs believe will serve only low-cost areas) but to the ILECs themselves, who will be net recipients of CBG-based high-cost funding. Table 1 below is an extrapolation from the results included in my June 5 hand-out,[2] and identifies an upper bound estimate of *national* universal service funding requirements using the BCM, with ETI's corrections, and assessing support requirements at the wire center level.[3] ETI's initial report provides additional discussion and examples of this issue.[4]

Table 1

Comparative Summary Results of the BCM and the ETI Partially Corrected BCM
(Wire Center Aggregation)
National Total (excluding Alaska)

	BCM	**ETI Partial Corrections**
Annual Benchmark Cost	$18,402,608,162	$4,784,678,122
Average Monthly Cost	$16.71	$12.37
USF Requirement ($20)	$3,977,572,193	$1,034,168,770
USF Requirement ($30)	$2,203,441,910	$462,722,801
USF Requirement ($40)	$1,372,205,121	$233,274,871

Note: Adjustment factors based upon a comparison of BCM and ETI results for Washington are used to estimate national ETI results.

2. These are labelled Tables 1 through 4 in my June 5 hand-out. We compared the results shown in Table 1 with the results shown in Table 3 of my June 5 hand-out in order to estimate the real bonanza (which would accrue primarily to ILECs) of approximately $500-million. This is the difference between the approximate $1.5-billion national figure associated with ETI's run of the BCM with partial corrections, computing need at the CBG level and the approximate $1-billion based on the same run, but assessing need at the wire center level. This reflects an assumed price threshold of $20. For price thresholds of $30 and $40, the CBG bonanzas would be $286 million and $178 million, respectively.

3. A table with results of similar magnitude is included in the ETI reply report, *The BCM Debate, A Further Discussion*, May 1996 at 21. The difference between Table 2.3 which appears on page 21 of ETI's Reply Report and the new Table 1 is simply that Table 2.3 does not include the adjustment for the penetration rate.

4. *The Cost of Universal Service, A Critical Assessment of the Benchmark Cost Model*, April 1996, at 97-101.

Table 2 provides additional results of our analysis of the CBG vs. wire center issue. It demonstrates that Mr. Brown's fear that low-cost CBGs will receive "unnecessary" funding support when grouped with high-cost CBGs is misplaced. Rather, to the extent that this occurs, the effect is eclipsed by the opposite phenomenon, namely that a number of otherwise "high-cost" CBGs, when properly analyzed at the wire center level, do not in fact qualify for high cost support at all.

Table 2

Comparison of BCM High Cost Support Requirement
for Washington State with ETI Partial Corrections
at the CBG and Wire Center Level

	$20	$30	$40
Scenario A: Number of wire centers receiving USF when support is assessed at the CBG level	288	214	160
Scenario B: Number of wire centers receiving USF when support is assessed at the wire center level	154	85	57
Support level under Scenario A	$29,230,056	$17,429,545	$11,430,572
Support level under Scenario B	$19,966,076	$10,755,951	$6,402,815
Excess USF support requirement under CBG-based funding	$9,263,980	$6,673,594	$5,027,757

Note: The BCM recognizes a total of 345 wire centers in Washington State

The preceding discussion focusses on those specific instances where a CBG-based cost proxy would lead to USF support being granted while a wire center-based assessment of need would indicate that no USF support is required. Returning to the specific hypothetical numerical example offered by Mr. Brown — the La Junta, Colorado wire center operated by

Eagle Telecommunications Co.[5] — we can demonstrate that Mr. Brown's hypothetical costs and price thresholds can be just as easily used to show the opposite effect, i.e., that no support would be required when CBG costs are aggregated at the wire center level. Mr. Brown's example assumed a rural community with 1000 lines of which 800 are in the village at an average cost of $20 per month, and 200 are on outlying farms at an average cost of $200 per month.[6] Under a wire center based approach the average cost per line would be $56 and, assuming a $30 price threshold, each line would be eligible for $26 of USF, so the total USF support for the 1000 lines in the wire center would be $26,000 per month. According to Mr. Brown, new entrants would receive "$6 more than cost" for serving customers in town. Mr. Brown's concern is simply that new entrants would receive unnecessary support for serving customers in town and there would be no incentive to serve the customers on the farm, because there would be a $144 support shortfall.

Under a CBG-based approach, using this same example, support of $170 per line would be provided for the 200 lines in the country and no support would be provided for the CBG in the village. Thus, the total USF support for the same wire center area would be $34,000 per month (i.e., 200 lines times $170 per line). But if a small modification is made to the numerical relationships assumed by Mr. Brown — e.g., 900 lines in the village and 100 lines in the country — then the total cost (for the entire wire center) would be $38,000 and there would be only $8,000 of support required at the $30 support level. Under a CBG-based assessment, USF support of $17,000 would be awarded to the wire center area.

Mr. Brown's objection to assessing the need for high cost support at the wire center level as opposed to the CBG level is presumably related to the idea that because incumbent LECs are required to set "average" rates over the entire exchange, new competitors in the market for residential local exchange service will "cherry-pick" the CBGs in a high cost wire center that are comparatively less costly to serve than more outlying CBGs. That is, carriers will gladly accept the per-line high cost funding support that has been assigned to the entire wire center but choose to serve only a "lower cost" subset of the wire center.[7] As it turns out, however, ILECs do not always charge an "average" or uniform price throughout an exchange. In the case of La Junta, for example, only customers located in the village (the "base rate area") pay the "base rate" of $14.80 per month for single-party residential service. Customers located "on the farm" pay "zone" rate increments based upon their relative distance from the wire center building, which can amount to as much as $20.00 per month in addition to the $14,80 base rate. Attachment 1 to this letter is a reproduction of the map of a portion of the La

5. La Junta was formerly served by US West but was divested by the Company in 1994 as part of its program to sell off small, rural exchanges that would qualify for high-cost support if removed from the aggregate US West statewide study areas.

6. Chart IV of Mr. Brown's hand-out of June 5, 1996.

7. In Mr. Brown's example, his approach would yield a bonanza of $8000 per month for the La Junta area.

Junta exchange offered by Mr. Brown with the base rate area and zone boundaries drawn in.[8] Attachment 2 is a copy of the current Eagle Telecommunications Co. tariff for La Junta, indicating the base rate and zone incremental charges.

In fact, the tariff structure extant in La Junta is not atypical of rural exchanges served by Bell as well as independent LECs. The notion that new entrants will ignore rural areas because rural customers pay "average" rates is belied by the fact that many, if not most, rural customers do not in any sense pay "average" rates at all. Indeed, new entrants, who are likely to experiment with alternative technologies for serving rural areas, may be attracted by the prevailing high rural ILEC rates and enter those markets with technological solutions that could significantly benefit the high-cost area that the ILECs demand be "protected." Such "protection" in the form of unwarranted universal service support will be more likely to deter competition and innovation than to benefit these customers in the long run.

CBG disaggregation limited to High Cost Wire Centers

While I continue to believe and recommend that funding be based upon proxy costs developed at the wire center level, I would offer for the Joint Board's consideration an alternate approach that would foreclose spurious funding in fundamentally low-cost areas while still providing support for rural and insular high-cost communities. This could be accomplished by a two-step approach:

(1) Calculate proxy costs on a wire center basis for all wire centers nationwide. If the proxy cost for a given wire center does not exceed the adopted support threshold level, the entire wire center is excluded from receiving high-cost support, even if one or more individual CBGs within the wire center are above the threshold.

(2) For all wire centers whose costs (calculated at the wire center level) are above the support threshold, calculate the proxy costs for each of the CBGs within such wire centers. CBGs whose proxy costs exceed the support threshold would then qualify for high-cost funding, those below the threshold would not.

We have attempted to quantify the effects of this refinement upon our previous support estimates. Of the total 345 wire centers in Washington, only 154 exhibit wire center proxy costs in excess of the $20 support threshold. The USF requirement for these wire centers under the "combined wire center/CBG approach" would be $23.4-million. The corresponding support requirement at the $30 and $40 support thresholds would be $12.2- and $7.5-million, respectively. Table 3 below extrapolates the results of this analysis to the national level.

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8. The La Junta exchange is considerably larger than the portion shown on Mr. Brown's map, and includes a base rate area and three rural zones.

Table 3

National USF Requirement when Support is Limited to
High Cost CBGs in High Cost Wire Centers
(Excluding Alaska)

Support Threshold	$20	$30	$40
National USF	$1,194,409,566	$531,357,725	$274,305,751

I hope that these additional comments are helpful. If you or your Staff would like to discuss any aspect of this material, or require further information, please do not hesitate to contact me.

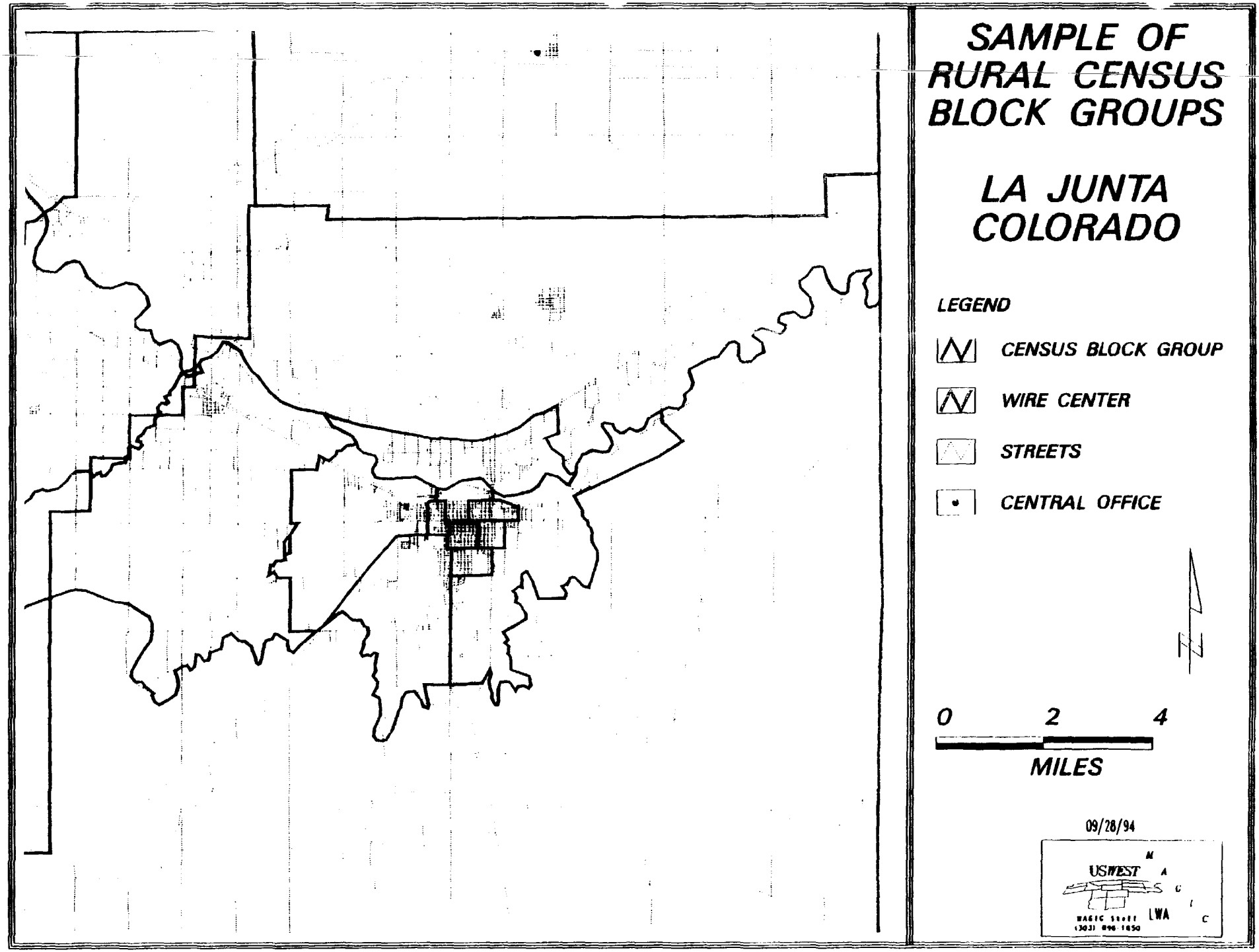
Sincerely,

Attachments:

1. Map of the La Junta exchange showing base rate and rural zone areas

2. Eagle Telecommunications Co. tariff for the La Junta, Colorado exchange.

c.c. (w/attachments): Members of the Joint Board Staff
William F. Caton, Acting Secretary, FCC



Appendix 1

CHART 1

5. EXCHANGE SERVICES

5.1 EXCHANGE AREAS (Cont'd)
5.1.1 LIST OF EXCHANGE AREAS AND LOCAL CALLING AREAS (Cont'd)

Exchange Area	Exchange, Zone or Wire Center Included In The Local Calling Area	
Cheraw	Fowler, La Junta, Las Animas, Manzanola, Ordway, Rocky Ford	
Cheyenne Wells	Burlington, Kit Carson wire center of Eastern Slope Rural Telephone Association; Sheridan Lake wire center of Sunflower Telephone Company	
Collbran	De Beque, Grand Junction, Mesa, Palisade	
Creede	Alamosa, Del Norte, Monte Vista	
Dolores	Cortez, Durango, Mancos; Rico wire center of Rico Telephone Company; Pleasant View wire center of Farmers Telephone Co., Inc.	
Fowler	Cheraw, La Junta, Manzanola, Ordway, Rocky Ford, Pueblo	(N)
Gardner	La Veta, Walsenburg, Pueblo	(N)
Holly	Bristol-Granada, Lamar; Hartman and Towner wire center of Sunflower Telephone Company	
Ignacio	Bayfield, Durango; Allison wire center of Universal Telephone Company of Colorado	
La Jara	Alamosa, Antonito, Manassa, Monte Vista, San Luis	
La Junta	Cheraw, Fowler, Las Animas, Manzanola, Ordway, Rocky Ford; Kim wire center of Rye Telephone Company	

5. EXCHANGE SERVICES

5.2 LOCAL EXCHANGE SERVICE (Cont'd)

5.2.4 FLAT RATE AND MULTIPARTY SERVICE

1. These services entitle customers to an unlimited number of calls within the local calling area. Applicable incremental charges, as specified in 5.1.6, also apply. Rates and charges include touch-tone.

2. For 1-plus local calls, the use of toll screening features available with some telecommunications equipment or the subscription to similar services available from the Company may prevent the completion of such calls.

3. The service and equipment charge associated with the provision of flat rate service and multiparty service applies

   - to install a flat and/or multiparty line.

   - for connecting a flat and/or multiparty line when changing a grade of service from PBX service.

4. If two or more residential lines are subscribed to at the same time, by the same customer and in the same residential premises, the service and equipment charge will be waived on every other line (i.e., the second, fourth, sixth line)

5. During specific promotional periods, the offer may be made to reduce service and equipment charges on a non-discriminatory basis, up to the full amount, for customers who order an additional line

5. EXCHANGE SERVICES

5.2 LOCAL EXCHANGE SERVICE (Cont'd)
5.2.4 FLAT RATE AND MULTIPARTY SERVICE (Cont'd)

A. RESIDENCE FLAT RATE AND MULTIPARTY SERVICE

	ASOC	Service & Equipment Charge	Monthly Rate	ASOC	
- Individual line, each	XNSR	$ 35.00	$ 14.80	R1	(I)
- 2-party line, each[1]	XNSR	35.00	12.28	R2	(I)
- 4-party line, each[1]	XNSR	35.00	10.61	R4	(I)

[1] Party Line Service will only be provided on a temporary basis where facilities for individual line service are not immediately available. When facilities become available, existing customers will be regraded to individual line service pursuant to the conditions of 5.2.4.C.4.

5. EXCHANGE SERVICES

5.1 EXCHANGE AREAS (Cont'd)

5.1.6 LOCAL SERVICE INCREMENTS (Cont'd

D. EXCHANGE ZONE INCREMENT CHARGES (Reconfigured exchange areas)

1. Exchange Zone Increment charges specified in 5.1.6.D. will apply (C)
(C)

2. In addition to local exchange service rates and charges, business or residence exchange access lines and PBX trunks located outside base rate areas are subject to Exchange Zone Increment Charges.

3. The applicable Exchange Zone Increment will be based on the approximate distance from the serving CO as described below and the number of exchange (access lines in an exchange. The exact location of base rate area and zone boundaries can be found on the exchange area maps which are located in separate binders.

a. For exchanges with less than 2500 access lines:

Zone 1, 1.5 - 5 miles
Zone 2, 5+ - 9 miles
Zone 3, over 9 miles

b. For exchanges with more than 2500 access lines

Zone 1, 3.5 - 6 miles
Zone 2, 6+ - 12 miles
Zone 3, over 12 miles

c. The exchange zone increment charges, as specified in 5.1.6.A., shall become void the first month following the first month in which Eagle Telecommunications receives full USF funding (N)
(N)

5. EXCHANGE SERVICES

5.1 EXCHANGE AREAS (Cont'd)
5.1.6 LOCAL SERVICE INCREMENTS (Cont'd)
D.3.c. (Cont'd)

4. Monthly Increments

ASOCS (T)

ZONE	RESIDENCE ONE/TWO PARTY	RESIDENCE FOUR/EIGHT PARTY	BUSINESS ONE/TWO PARTY	BUSINESS FOUR/EIGHT PARTY
1	MZ1R	MZ1R4	MZ1B	MZ1B4
2	MZ2R	MZ2R4	MZ2B	MZ2B4
3	MZ3R	MZ3R4	MZ3B	MZB34

	Zone 1	Zone 2	Zone 3	ASOC Rate Variation
Individual and 2-party Access Lines and PBX Trunks				
- Residence	$5.00	$12.00	$20.00	NO
- Business	7.50	17.50	25.00	NO
4-party and 8-party Access Lines				
- Residence	3.00	7.00	12.00	40
8-party Access Lines				
- Business	4.50	10.50	15.00	40

(T)